

CLAIM AMENDMENT

Listing of Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A method for producing a recombinant protein containing repeating units comprising:
 - (a) providing a first pool of polynucleotides, said pool of polynucleotides comprising at least two tandem repeats of sequences encoding a portion of said recombinant protein, wherein said tandem repeats contain degenerate nucleotide sequences encoding for said recombinant protein in accordance with the degeneracy of the genetic code;
 - (b) providing a second pool of polynucleotides, at least some of which are complementary to the polynucleotides in said first pool of polynucleotides;
 - (c) combining said first pool of polynucleotides and said second pool of polynucleotides under conditions whereby the polynucleotides will anneal;
 - (d) extending the 3' ends of said annealed polynucleotides under conditions wherein said annealed polynucleotides act as primers for their complements;
 - (e) denaturing the extended polynucleotides;
 - (f) repeating steps (c) – (e) at least once, whereby the products of step (e) provide the polynucleotides for annealing in step (c) of the next cycle;
 - g) if necessary, adding one or more linker oligonucleotides to the end of the products of (f), said linker oligonucleotides containing at least one restriction enzyme cleavage site;

- (h) inserting the products of (f) or (g) into a suitable vector;
 - (i) introducing said vector into a suitable host cell; and
 - (j) maintaining said host cell under conditions allowing for expression of said recombinant protein.
2. (Original) The method of claim 1, wherein said tandem repeats are separated by no more than nine nucleotides.
 3. (Original) The method of claim 1, further comprising cleaving said recombinant protein between said tandem repeats to produce non-repeating peptides.
 4. (Original) The method of claim 3, further comprising cleaving said polynucleotides after step (f).
 5. (Original) The method of claim 1, wherein said polynucleotides encode polypeptides comprising at least 25% of a desired amino acid.
 6. (Original) The method of claim 1, wherein said polynucleotides encode polypeptides comprising at least 50% of a desired amino acid.
 7. (Original) The method of claim 1, wherein said polynucleotides encode polypeptides comprising at least 75% of a desired amino acid.
 8. (Original) The method of claim 1, wherein said polynucleotides encode polypeptides comprising at least 90% of a desired amino acid.
 9. (Previously presented) The method of claim 1, wherein said tandem repeats encode at least one sequence selected from the group consisting of LKPNM (SEQ ID NO:1), KPNM (SEQ ID NO:2), VVYP (SEQ ID NO:3), KPN, DKP, YKP, EKP, DAP, EAP, HPP, VPP, LK, PN and NM.
 10. (Original) The method of claim 1, further comprising introducing a second vector into said host cell, said second vector containing a nucleotide sequence encoding an enzyme capable of cleaving said recombinant protein between said tandem repeats.

11. (Original) The method of claim 10, wherein said second vector further comprises a tissue or organelle specific promoter such that expression of said enzyme is restricted to a tissue or organelle different from the tissue or organelle expressing said recombinant protein.
12. (Original) The method of claim 10, wherein said second vector further comprises a targeting sequence.
13. (Original) The method of claim 10, wherein said vector further comprises an expression cassette.
14. (Original) The method of claim 13, wherein said expression cassette comprises at least one promoter chosen from the group consisting of a tissue specific promoter, an inducible promoter, a constitutive promoter, a developmentally regulated promoter, an organelle specific promoter, a seed specific promoter and a plastid specific promoter.
15. (Original) The method of claim 13, wherein said expression cassette further comprises at least one targeting sequence.
16. (Original) The method of claim 13, wherein said expression cassette further comprises at least one secretion sequence.
17. (Original) The method of claim 13, wherein said expression cassette further comprises an additional nucleotide sequence encoding an enzyme capable of cleaving said recombinant protein between said tandem repeats.
18. (Original) The method of claim 17, wherein said additional nucleotide sequence is under the control of a separate promoter.
19. (Original) The method of claim 1, wherein said host cell is selected from the group consisting of bacterial cells, yeast cells, insect cells and animal cells.
20. (Original) The method of claim 1, wherein said host cell is a plant cell.
21. – 118. (Canceled)

RESPONSE TO OFFICE ACTION

A. State of the Claims

Claims 1-118 were pending at the time of the Action. Claim 1 has been amended. Support for the amendments may be found, at least, in the Examples on pages 29-36. Claims 21-118 have been canceled herein without prejudice or disclaimer. No new matter has been added.

Thus, claims 1-20 are presently pending and presented for reconsideration.

B. Amendments to the Figure Legend

Applicants have amended the FIG. 1B legend to include the sequence identifiers SEQ ID NO:30 and SEQ ID NO: 31.

C. Objections to the Sequence Listing as Required under 36 C.F.R. 1.821 are Overcome

The Action states that the Applicants have not complied with the requirements of 37 C.F.R. 1.821 through 1.825 because the sequences set forth lack sequence identifiers, a computer readable format (CRF), a paper sequence and an attorney statement. In response Applicants note that a sequence listing was previously filed in the case. Attached herewith is a copy of the postcard (**Exhibit A**) date stamped on December 3, 2002 from the PTO confirming submission on November 27, 2002 of a Statement as Required Under 37 C.F.R. 1.825 (a) and (b) and 37 C.R.F. 1.821 (g), a substitute computer readable form and a substitute paper copy of the sequence listing as filed in the original specification.

However, for the convenience of the Office and in the interest of expedited prosecution, an amended sequence listing including the sequences in FIG. 1B is provided herewith. The specification has also been amended to reference SEQ ID NO:30-31. It is believed that the objection is moot in light of the foregoing and thus removal thereof is respectfully requested.

D. Objections to the Information Disclosure Statement are Overcome

The Action states that the information disclosure statements filed 1/14/03 and 1/17/02 failed to comply with 37 C.F.R. 1.98(a)(2). Specifically, the Action states that non-patent references cited on each PTO form 1449 are not present in the file. With regard to the 1/14/03 date, Applicants initially note that this date should be 6/14/01.

In response, Applicants respectfully traverse as the references were submitted to the PTO with each IDS at the time of filing. Attached as **Exhibits B and C** are postcards stamped by the Patent and Trademark Office evidencing receipt of the references listed in the PTO Form 1449. Specifically, the postcards list the total number of references submitted and were confirmed received. It is therefore submitted that the references should be in the possession of the Office.

As it would be a substantial burden for Applicants to collect, copy and submit all of the references again, some of which may not have been provided to current counsel by previous counsel, Applicants respectfully request that the Office research the relevant files and any locations where the references could have been misplaced at the Office. However, should such a search prove unfruitful, Applicants respectfully request that the Examiner contact the undersigned representative so that arrangements may be made to obtain additional copies.

E. Rejection of the Claims Under 35 U.S.C. §112, Second Paragraph are Overcome

The Action rejects claim 1-20 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claim 1 has been rejected as being vague and unclear with regard to the phrase "...providing a first pool of polynucleotides, said polynucleotides comprising at least two tandem repeats of sequences encoding said recombinant protein...". Applicants respectfully traverse this

rejection but note that claim 1 has been amended in the interest of compact prosecution. Claim 1 has been amended to recite:

"A method for producing a recombinant protein containing repeating units comprising: (a) providing a first pool of polynucleotides, said pool of polynucleotides comprising at least two tandem repeats of sequences encoding a portion of said recombinant protein, wherein said tandem repeats contain degenerate nucleotide sequences encoding for said recombinant protein in accordance with the degeneracy of the genetic code;.....(j) maintaining said host cell under conditions allowing for expression of said recombinant protein."

It is believed that the rejection is moot in light of the amendment.

Claim 3 has been rejected for being vague with regard to the phrase "further comprising cleaving said recombinant protein between said tandem repeats to produce non-repeating peptides." Applicants specifically traverse this rejection, as the claim is sufficiently definite. Claim 1, from which claim 3 depends recites "A method for producing a recombinant protein...". Dependent claim 3 specifically recites that the recombinant protein, which is the product of claim 1, is cleaved. Thus, one as one of ordinary skill in the art would understand that claim 3 refers to the recombinant protein produced in claim 1. It is thus submitted that the claim is definite and removal of the rejection is therefore respectfully requested.

Claims 12 and 15 are rejected for lacking language to clarify a "targeting sequence." In response, it is noted that the claim has been amended. Support for the amendment can be found, at least, at page 26. It is believed that the rejection is moot in light of the amendment.

In light of the foregoing, Applicants respectfully request that the Examiner withdraw the rejections under 35 U.S.C. §112, second paragraph.

F. Conclusion

In view of the above, all objections to the patent application for non-compliance and all of the rejections to the claims have been overcome, and the case is in condition for allowance.

The Examiner is invited to contact the undersigned attorney at (512) 536-3085 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,



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